

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Fredericksburg Satellite Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Transcontinental Gas Pipe Line Corporation (Transco)
Orange County, Virginia
Permit No. FSO40782

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Transco has applied for a Title V Operating Permit for its natural gas compressor station (Compressor Station 180) located in Orange County, Virginia. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: July 5, 2001

Air Permit Manager: _____ Date: _____

Regional Permit Manager: _____ Date: _____

FACILITY INFORMATION

Permittee

Transcontinental Gas Pipe Line Corporation
P.O. Box 1396
Houston, Texas 77251-1396

Facility

Compressor Station 180
7444 Everona Road
Unionville (Orange County), Virginia 22567

AIRS ID No. **51-137-0027**

SOURCE DESCRIPTION

SIC Code: 4922 - Natural gas transmission.

Transcontinental Gas Pipe Line Corporation (Transco) is an interstate natural gas transmission company. Compressor Station 180 is one of many compressor stations along Transco's 1,900-mile pipeline system that transports natural gas from production areas in the Gulf Coast region to customers along the eastern seaboard. Compressor Station 180 utilizes fourteen (14) mainline natural gas-fired, internal combustion, reciprocating compressor engines [M01-M14] to compress and move the gas along the pipeline system. The facility has three (3) natural gas-fueled reciprocating auxiliary electric power generators [AUX01 - AUX03] for use when electric power is unavailable to the facility from the electric utility or when the electric utility requests the facility to provide its own station power.

The facility is a Title V major source for nitrogen oxides, carbon monoxide, volatile organic compound and hazardous air pollutants (formaldehyde) emissions. This source is a "major stationary source" located in a Prevention of Significant Deterioration (PSD) area, which is classified as "attainment or unclassified" for all pollutants. For the purposes of the Virginia Regulations for the Control and Abatement of Air Pollution, Transco's Compressor Station 180 is an existing stationary source since construction of all fourteen (14) mainline compressor engines [M01-M14] and the three auxiliary electric power generators [AUX01 - AUX03] commenced before March 17, 1972.

COMPLIANCE STATUS

The facility is inspected at least once per calendar year. The most recent inspection occurred on August 30, 2000. Based on the inspection, the DEQ determined the facility to be in compliance with the applicable requirements.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The significant emission units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
M01	01	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M02	02	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M03	03	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M04	04	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
M05	05	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M06	06	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M07	07	Clark BA-8, 1800 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	16.6 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M08	08	Clark TLA-6, 2100 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	17.2 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M09	09	Clark TLA-6, 2100 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	17.2 x 10 ⁶ Btu/hr (heat input)	None	-	-	None

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
M10	10	Clark TLA-6, 2100 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	17.2 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M11	11	Clark TCV-10, 3400 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	26.0 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M12	12	Clark TCV-10, 3400 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	27.8 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M13	13	Clark TCV-10, 3400 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	27.8 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
M14	14	Clark TCV-14, 5500 hp natural gas internal combustion reciprocating compressor engine (Constructed before 1972)	43.0 x 10 ⁶ Btu/hr (heat input)	None	-	-	None

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
AUX01	15	Ingersoll Rand PVG-8 natural gas internal combustion reciprocating auxiliary electric power generator (Constructed before 1972)	5.5 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
AUX02	16	Ingersoll Rand PVG-8 natural gas internal combustion reciprocating auxiliary electric power generator (Constructed before 1972)	5.5 x 10 ⁶ Btu/hr (heat input)	None	-	-	None
AUX03	17	Ingersoll Rand PVG-8 natural gas internal combustion reciprocating auxiliary electric power generator (Constructed before 1972)	5.5 x 10 ⁶ Btu/hr (heat input)	None	-	-	None

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of Transco's calendar year 2000 emission statement is attached as Attachment 1. The criteria pollutant and hazardous air pollutant emissions from the fourteen (14) mainline compressor engines [M01-M14] and the three (3) auxiliary electric power generators [AUX01-AUX03] provided in this emission statement are summarized in the following tables.

CY 2000 Annual Criteria Pollutant Emissions (tons/yr)					
Unit ID No.	PM/PM ₁₀	NO _x	CO	VOCs	SO ₂
M01	0.5/0.5	236.5	70.0	9.8	0.1
M02	0.5/0.5	192.8	70.7	9.9	0.1
M03	0.5/0.5	236.6	65.9	9.2	0.1
M04	0.5/0.5	240.3	74.9	10.4	0.1
M05	0.5/0.5	52.5	70.8	9.9	0.1
M06	0.5/0.5	73.8	71.0	9.9	0.1
M07	0.5/0.5	275.9	63.7	8.9	0.1
M08	0.6/0.6	153.4	62.9	14.8	0.1
M09	0.6/0.6	144.5	61.6	14.5	0.1
M10	0.6/0.6	156.1	63.8	15.0	0.1
M11	0.8/0.8	81.9	99.0	14.0	0.2
M12	0.9/0.9	108.6	117.9	16.7	0.2
M13	1.0/1.0	114.9	129.1	18.3	0.2
M14	1.7/1.7	206.7	161.4	44.8	0.4
AUX01	0.0	0.6	3.9	0.1	0.0
AUX02	0.0	0.4	2.7	0.1	0.0
AUX03	0.0	0.1	0.8	0.0	0.0
Total	9.7/9.7	2275.6	1190.1	206.3	2.0

CY 2000 Annual Hazardous Air Pollutant Emissions (tons/yr)		
Unit ID No.	Formaldehyde	Total HAP
M01	2.9	2.9
M02	2.9	2.9
M03	2.7	2.7
M04	3.1	3.1
M05	3.0	3.0
M06	3.0	3.0
M07	2.6	2.6
M08	4.1	4.1
M09	3.9	3.9
M10	4.1	4.1
M11	5.2	5.2
M12	6.2	6.2
M13	6.5	6.5
M14	10.7	10.7
AUX01	0.0	0.0
AUX02	0.0	0.0

AUX03	0.0	0.0
Total	60.9	60.9

EMISSION UNIT APPLICABLE REQUIREMENTS - Mainline Compressor Engines [M01-M14] and Auxiliary Electric Power Generators [AUX01-AUX03]

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80. Standard for Visible Emissions (Existing Sources): Visible emissions from the exhaust stack of each mainline compressor engine [M01-M14] and each auxiliary electric power generator [AUX01-AUX03] are limited to 20 percent opacity, except for one six-minute period in any one hour of not more than 60 percent opacity. Such opacity standards shall apply at all times except during periods of startup, shutdown and malfunction.

9 VAC 5-40-280 B. Standard for Sulfur Dioxide - Combustion Installations (Existing Sources): Located in AQCR 4, sulfur dioxide emissions from all fourteen (14) mainline compressor engines [M01-M14] and all three (3) auxiliary electric power generators [AUX01-AUX03] are limited to the following:

$$S = 2.64K$$

where:

S = allowable emission of sulfur dioxide expressed in lbs/hr.

K = actual heat input at total capacity expressed in Btu x 10⁶ per hour. Total capacity is the sum of the rated capacities of all fourteen (14) mainline compressor engines and all three (3) auxiliary electric power generators.

For [M01-M14] and [AUX01-AUX03], the heat input at total capacity, K = 302.9. Thus, S = 799.7 lbs/hr.

The facility is constructed and designed such that all fourteen (14) mainline compressor engines [M01-M14] and all three (3) auxiliary electric power generators [AUX01-AUX03] burn pipeline grade natural gas. This makes the likelihood of violating the visible emission standard or the sulfur dioxide standard virtually impossible as long as each unit is properly maintained and burns pipeline grade natural gas. To assure compliance with these applicable requirements, authority under 9 VAC 5-80-110 B.1 is utilized by including in the draft Title V permit, a provision requiring the facility to only burn pipeline grade natural gas. 9 VAC 5-80-110 B.1 also is invoked to require that the facility properly operate and maintain [M01-M14] and [AUX01-AUX03] in accordance with manufacturer's recommendations, at a minimum.

Monitoring and Recordkeeping

Monitoring and recordkeeping for [M01-M14] and [AUX01-AUX03] have been incorporated to meet 40 CFR Part 70 requirements. The quantity and quality of monitoring and recordkeeping required are believed to be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with this permit. All records are required to be kept for the most recent five year period. They are listed below for each emission limitation, work practice and operational standard as may be applicable.

- A. Visible Emissions: Natural gas is a clean burning fuel and produces little or no particulate matter or visible emissions when [M01-M14] and [AUX01-AUX03] are operated properly. Thus, the periodic monitoring prescribed in the draft Title V permit under 9 VAC 5-80-110 E is recordkeeping that shows that [M01-M14] and [AUX01-AUX03] are properly operated and maintained.
- B. Sulfur dioxide: As stated in the *Limitations* section, it is virtually impossible to violate the applicable sulfur dioxide standard as long as [M01-M14] and [AUX01-AUX03] burn pipeline grade natural gas. Since natural gas is the only permitted and available fuel source on site for [M01-M14] and [AUX01-AUX03], there is no chance of violating the applicable sulfur dioxide standard. Consequently, there is no monitoring or recordkeeping prescribed for [M01-M14] and [AUX01-AUX03] with regards to the sulfur dioxide standard.

Testing

The draft Title V permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and the EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting has been included in the draft Title V permit for [M01-M14] or [AUX01-AUX03].

Streamlined Requirements

There are no streamlined requirements proposed.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE ONLY APPLICABLE REQUIREMENTS

Transco did not request the inclusion of any state-only requirements as applicable state requirements in the draft Title V permit.

FUTURE APPLICABLE REQUIREMENTS

Transco did not identify any future applicable requirements in their application. There is a tentative proposal date of May 2001 for a MACT (Subpart ZZZZ) covering the Reciprocating Internal Combustion Engines (RICE). Whenever this MACT is finalized, it may affect the operation of the fourteen (14) mainline compressor engines [M01-M14] or [AUX01-AUX03] at this facility. However, currently, the DEQ is not aware of information available to determine the extent of its applicability. The DEQ is also not aware of any other future applicable requirements at this time. Consequently, no future applicable requirements have been included in the permit.

INAPPLICABLE REQUIREMENTS

Transco did not identify any inapplicable requirements in their application. However, in reviewing their application and the air regulations for their Title V permit preparation, the DEQ identified the following regulations that are specifically not applicable to Transco's Compressor Station 180 (or portion of it):

40 CFR Part 63, Subpart HH. NESHAP for Oil and Natural Gas Production: These standards are applicable to owners and operators of facilities that process, upgrade, or store (1) hydrocarbon liquids and (2) natural gas from the well up to and including the natural gas processing plant. Transco's Compressor Station 180 does not engage in the processing, upgrading or storage of hydrocarbon liquids. Also, Transco's Compressor Station 180 is compressing and transporting natural gas downstream of any natural gas processing plant. Since Transco's Compressor Station 180 does not contain any of the affected sources listed in 40 CFR §63.760(b), the facility is not subject to the requirements of this subpart as stated in 40 CFR §63.760(d).

40 CFR Part 63, Subpart HHH, NESHAP for Natural Gas Transmission and Storage: These standards apply to owners and operators of facilities that process, upgrade, transport or store natural gas prior to delivery to a local distribution company (LDC) or a final end user if no LDC is present. The final standards for natural gas transmission and storage facilities require that the owner or operator of a major source of HAP reduce HAP emissions from glycol dehydration units through the application of air emission control equipment or pollution prevention measures, or a combination of both. 40 CFR §63.1270(b) states that the affected source is each glycol dehydration unit. 40 CFR §63.1270(c) states that the owner or operator of a facility that does not contain an affected source, as specified in paragraph (b) of this section, is not subject to the

requirements of this subpart. Transco's Compressor Station 180 does not contain any glycol dehydration units and therefore, the standards of Subpart HHH are not applicable.

40 CFR Part 68, Chemical Accident Prevention Provisions: These provisions apply to the owner or operator of a *stationary source* that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR §68.115. In accordance with 40 CFR §68.3 (Definitions), "the term stationary source **does not apply** to transportation ..."; transportation includes transportation subject to oversight or regulation under 49 CFR parts 192, 193, or 195, or a state natural gas or hazardous liquid program for which the state has in effect a certification to Department of Transportation (DOT) under 49 U.S.C. section 60105. Transco's Compressor Station 180 is regulated by the DOT pursuant to 49 CFR Part 192. Therefore, 40 CFR Part 68 does not apply to Compressor Station 180.

COMPLIANCE PLAN

Transco's Compressor Station 180 is currently in compliance with all applicable requirements. No compliance plan is included in the application or in the draft Title V permit.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units, listed below, are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting has been prescribed in the Title V permit.

The following emission units at the facility are identified in the application as insignificant¹ emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
IA1	Dutton 3830 natural gas-fired comfort heater (boiler)	9 VAC 5-80-720 C	N/A	2.6 MM Btu/hr
IA2	Cyclotherm LN-45 natural gas-fired comfort heater (boiler)	9 VAC 5-80-720 C	N/A	5.4 MM Btu/hr

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
IA6-IA15, IA18-IA20, IA22-IA34 & IA39-IA41	Miscellaneous storage tanks/sumps	9 VAC 5-80-720 B	VOC	N/A
IA16, IA17 & IA21	Miscellaneous lubricant or used oil tanks/sumps	9 VAC 5-80-720 C	N/A	Each less than 1000 gallons
IA35	Caterpillar 3306 natural gas-fired air compressor	9 VAC 5-80-720 C	N/A	1.0 MM Btu/hr
IA36	Caterpillar 3306 natural gas-fired air compressor	9 VAC 5-80-720 C	N/A	1.0 MM Btu/hr
IA37	Piping - mechanical joints: fugitive emissions	9 VAC 5-80-720 B	VOC	N/A
IA38	Water evaporator	9 VAC 5-80-720 B	VOC	N/A
IA42	Parts washer	9 VAC 5-80-720 B	VOC	N/A

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permit applicant did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the May 17, 2001 edition of the *Orange County Review*. The *Orange County Review* is published weekly (Thursdays) and is the local newspaper of general circulation in the area where Transco's Compressor Station 180 is

located. Additionally, the information contained in the official public notice was sent to the following persons for the stated purposes:

1. DEQ's Bill Hayden for posting on the DEQ's website.
2. DEQ's Cindy Berndt for publishing in the *Virginia Register*.
3. David Mummert, contact for the affected State of Maryland, in accordance with 9 VAC 5-80-290 B.
4. All persons on DEQ's current (February 16, 2001) Mailing List, in accordance with 9 VAC 5-80-270 B.
5. US EPA Region III's Dave Campbell for review and comment.

The Title V permit application, the Statement of Legal and Factual Basis, the draft Title V permit and other pertinent information were made available at the DEQ's Fredericksburg Office throughout the entire public comment period from May 17, 2001 through June 18, 2001. The draft Title V permit was concurrently reviewed as a "Proposed Permit" by the U.S. Environmental Protection Agency (EPA). EPA's 45-day review period expired on July 2, 2001 as no comments were received from the public, the affected state of Maryland, EPA or the permittee during the public comment period.

ATTACHMENT 1

CY 2000 EMISSION STATEMENT